



RESPONSE UNDER 37 C.F.R. § 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 2100

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named
Inventor : Kevin I. Bertness

Appln. No.: 10/804,773

Filed : March 18, 2004

For : APPARATUS AND METHOD FOR
COUNTERACTING SELF DISCHARGE
IN A STORAGE BATTERY

Docket No.: C382.12-0190

Group Art Unit: 2838

Examiner:

Rajnikant B. Patel

PRE-APPEAL BRIEF REQUEST FOR REVIEW

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Commissioner for Patents

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A. Rego
PATENT ATTORNEY

Sir:

Applicants respectfully request a Pre-Appeal Brief Review of the rejection of claims 1 and 23 under ¶103(a) based on Palfey et al. U.S. Patent No. 6,177,737 ("Palfey"), since the rejection is based on clear error of fact and omission of essential elements to establish a prima facie rejection. The rejection is unsupported by Palfey.

Similar review of the rejection of claims 2-3, 6-18 and 82-94 under ¶103(a) based on Palfey in view of Barrett, U.S. Patent No. 5,684,678 ("Barrett") is requested.

Also, review of the rejection of claims 36-41 and 95-100 under ¶103(a) based on Tomantschger, U.S. Patent No. 5,637,978 ("Tomantschger") in view of Electronix Express (a non patent publication, November 10, 1998) and Bertness, U.S. Patent No. 6,249,124 ("Bertness") is requested.

Further, review of the rejection of method claims 46-64, 69-77 and 101-111, for the same reasons as the apparatus claims, is requested.

ARGUMENT

In Section 3 of the Office Action, claims 1 and 23 were rejected under 35 U.S.C. §103(a) as being unpatentable over Palfey et al., U.S. Patent No. 6,177,737.

Applicant respectfully points out that, because the apparatus of claim 1 is for counteracting self discharge in a storage battery, it includes “a charge supply battery configured to provide a supply voltage, and a DC-DC converter circuit having an input configured to electrically couple to the charge supply battery and an output configured to electrically couple to terminals of the storage battery, wherein the charge supply battery is of a different type and construction than the storage battery.”

Similarly, claim 23, which is directed to a jump-start booster pack, includes “a booster battery configured to provide starting energy to a vehicle; a charge supply battery configured to provide a supply voltage; and a DC-DC converter circuit having an input electrically coupled to the charge supply battery and an output electrically coupled to the booster battery, wherein the charge supply battery is of a different type and construction than the booster battery.” (Emphasis Added.)

The Office Action suggests that in Palfey, which is directed to a vehicle electrical power backup circuit and method, the combination of the car battery, item 40 and item 14 of figure 1 show the above elements and limitations of claims 1 and 23. Applicant respectfully points out that, in figure 1 of Palfey, item 40 is only connected to battery 14 and is independent of any other battery in the apparatus of Palfey. In fact, Palfey is specifically configured such that booster circuit 44 (included in item 40) is isolated from the vehicle electrical system that includes the car battery. Specifically, column 5, lines 26-28 state that:

The battery voltage output V_b , and hence the output **42** of the booster circuit **44** at LX, is isolated from the vehicle electrical system by the blocking diode D1.

Thus, in Palfey, the booster circuit voltage V_{BOOST} is neither provided to the car battery nor to battery 14, but to vehicle electrical devices that need this voltage when the vehicle electrical system (that includes the car battery) fails. Such a circuit is suitable for the electrical power backup system of Palfey, but is unrelated to, and unsuitable for, the claimed invention.

In summary, Palfey teaches or suggests nothing about a DC-DC converter circuit having an input electrically coupled to a charge supply battery and an output electrically coupled to a storage battery (or booster battery), which is of a different type and construction than the charge supply battery. Therefore, claims 1 and 23 are non-obvious and allowable over Palfey et al.

In section 4 of the Office Action, claims 2-3, 6-18 and 82-94 were rejected under 35 U.S.C. §103(a) as being unpatentable over Palfey, in combination with Barrett, U.S. Patent No. 5,684,678.

For reasons provided above, Palfey does not teach or suggest a DC-DC converter circuit having an input electrically coupled to a charge supply battery and an output electrically coupled to a storage battery (or a booster battery), which is of a different type and construction than the charge supply battery. Barrett does not overcome the deficiencies of Palfey. Thus, claims 2-3, 6-18 and 82-94 are non-obvious and allowable over the combination of Palfey and Barrett.

In Section 5 of the Office Action, claims 36-41 and 95-100 were rejected under 35 U.S.C. §103(a) as being unpatentable over Tomantschger, U.S. Patent No. 5,637,978 in combination with a paper published by Electronix Express (a non patent publication, November 10, 1998) and Bertness, U.S. Patent No. 6,249,124.

Applicant respectfully points out that statements in the Office Action, regarding the above rejection, address elements such as "a small battery" (last line of page 3 of the Office Action) which are not in any of claims 31-41 and 95-100. Thus, Applicant is unable to properly respond to this rejection. In any event, Applicant has included the following brief response.

Tomantschger discloses a booster battery assembly having a booster battery that is not protected from self-discharge by a charge supply battery and a DC-DC converter. The Electronix Express published paper only describes, in general, the design and operation of DC-DC converters, and Bertness relates to an electronic battery tester with an internal battery. None of these references taken alone or in combination teach or suggest a DC-DC converter circuit having an input electrically coupled to a charge supply battery and an output electrically coupled to a storage battery (or booster battery), which is of a different type and construction than the charge supply battery. Furthermore, the Examiner provided no evidentiary basis for modifying the cited references to

arrive at the claimed invention. Thus, dependent claims 36-41 and 95-100 are non-obvious and allowable over the cited art.

In Section 6 of the Office Action, method claims 46-64, 69-77 and 101-111 were rejected for the same reasons in the earlier sections in connection with the apparatus claims.

For reasons provided above, Applicant believes that method claims 46-64, 69-77 and 101-111 are non-obvious and allowable over the cited art. Further, although some method claims differ substantially from the apparatus claims, the Office Action has not addressed these differences in the rejection. For example, independent method claims 46 includes "providing a charging voltage to the storage battery as a function of the supply voltage, with the charging voltage having a magnitude greater than a magnitude of supply voltage." Although a similar element does not appear in the independent apparatus claims, the Office Action does not address this element. In any event, Palfey teaches or suggests nothing about this element. The remaining references do not compensate for the deficiencies of Palfey.

Claims 4-5 and 24-35, which do not appear to be addressed in the Office Action, are also believed to be allowable over the references cited in the Office Action.

In view of the foregoing, Applicant respectfully requests reconsideration and allowance of all pending claims 1-18, 23-41, 46-64, 69-77 and 82-111. Favorable action upon all claims is solicited.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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